

Read this first. These centiles are for a squeezed hand grip dynamometer (Jamar, Takei or electronic), the maximum of the trials on either hand, mostly measured seated. They come from twelve British population studies, 49,964 people, published by Dodds and colleagues in 2014.¹ Use the row for the nearest five year age. They do not apply to a handheld push or pull dynamometer held against a limb.

1. Men, kg

Age	10th	25th	50th	75th	90th	Mean (SD)
15	21	25	29	33	38	29.6 (5.6)
20	30	35	40	46	52	41.5 (7.3)
25	36	41	48	55	61	48.8 (8.7)
30	38	44	51	58	64	51.6 (9.6)
35	39	45	51	58	64	51.6 (10.1)
40	38	44	50	57	63	50.3 (10.3)
45	36	42	49	56	61	48.8 (10.3)
50	35	41	48	54	60	47.6 (10.1)
55	34	40	47	53	59	46.2 (9.8)
60	33	39	45	51	56	44.6 (9.2)
65	31	37	43	48	53	42.3 (8.6)
70	29	34	39	44	49	39.1 (8.1)
75	26	31	35	41	45	35.6 (7.6)
80	23	27	32	37	42	32.2 (7.3)
85	19	24	29	33	38	28.5 (7.0)
90	16	20	25	29	33	24.7 (6.8)

2. Women, kg

Age	10th	25th	50th	75th	90th	Mean (SD)
15	17	20	24	27	30	23.9 (4.5)
20	21	24	28	32	36	28.4 (5.1)
25	23	26	30	35	38	30.6 (5.6)
30	24	27	31	35	39	31.4 (6.0)
35	23	27	31	35	39	31.3 (6.2)
40	23	27	31	35	39	30.7 (6.3)
45	22	26	30	34	38	29.9 (6.4)
50	21	25	29	33	37	28.7 (6.4)
55	19	23	28	32	35	27.5 (6.4)
60	18	22	27	31	34	26.5 (6.2)
65	17	21	25	29	33	25.3 (6.0)
70	16	20	24	27	31	23.5 (5.7)
75	14	18	21	25	28	21.4 (5.4)
80	13	16	19	23	26	19.1 (5.1)
85	11	14	17	20	23	16.6 (4.7)
90	9	11	14	17	20	14.2 (4.4)

Bold figures mark the peak median: 51 kg for men between about 29 and 39, 31 kg for women between about 26 and 42.¹ An international review of 2.4 million adults in 69 countries found peak means of 49.7 kg (men) and 29.7 kg (women) at 30 to 39.²

3. Low grip cutoffs used in research

Definition	Men	Women	Source
Asian Working Group for Sarcopenia 2019, low muscle strength, older Asian adults	below 28 kg	below 18 kg	Chen et al. 2020 ³
Weak grip, 2.5 SD below the young adult peak mean, British data	27 kg or less	16 kg or less	Dodds et al. 2014 ¹

Population research definitions, not a diagnosis. A single reading is affected by protocol, dynamometer, fatigue, hand size and effort. This chart is general information, not medical advice.

4. Thai standard, men (kg per kg body weight)

Age	Very low	Low	Moderate	Good	Very good
19 to 24	0.50 or less	0.51 to 0.60	0.61 to 0.69	0.70 to 0.79	0.80 or more
25 to 29	0.51 or less	0.52 to 0.61	0.62 to 0.70	0.71 to 0.80	0.81 or more
30 to 34	0.52 or less	0.53 to 0.61	0.62 to 0.70	0.71 to 0.79	0.80 or more
35 to 39	0.50 or less	0.51 to 0.59	0.60 to 0.68	0.69 to 0.77	0.78 or more
40 to 44	0.41 or less	0.42 to 0.51	0.52 to 0.62	0.63 to 0.72	0.73 or more
45 to 49	0.36 or less	0.37 to 0.49	0.50 to 0.60	0.61 to 0.71	0.72 or more
50 to 54	0.35 or less	0.36 to 0.47	0.48 to 0.58	0.59 to 0.68	0.69 or more
55 to 59	0.34 or less	0.35 to 0.46	0.47 to 0.57	0.58 to 0.68	0.69 or more

5. Thai standard, women

Age	Very low	Low	Moderate	Good	Very good
19 to 24	0.40 or less	0.41 to 0.48	0.49 to 0.55	0.56 to 0.63	0.64 or more
25 to 29	0.40 or less	0.41 to 0.49	0.50 to 0.58	0.59 to 0.67	0.68 or more
30 to 34	0.42 or less	0.43 to 0.52	0.53 to 0.62	0.63 to 0.68	0.69 or more
35 to 39	0.37 or less	0.38 to 0.45	0.46 to 0.54	0.55 to 0.62	0.63 or more
40 to 44	0.36 or less	0.37 to 0.44	0.45 to 0.53	0.54 to 0.61	0.62 or more
45 to 49	0.35 or less	0.36 to 0.43	0.44 to 0.52	0.53 to 0.60	0.61 or more
50 to 54	0.32 or less	0.33 to 0.39	0.40 to 0.46	0.47 to 0.53	0.54 or more
55 to 59	0.30 or less	0.31 to 0.38	0.39 to 0.45	0.46 to 0.51	0.52 or more

Thai Department of Physical Education standard: best squeeze in kg divided by body weight in kg, from the 2019 manual of fitness tests and standards for Thai children, youth and the public, standing test, elbow straight, best of two. Reliability 0.89, validity 0.92.⁴ A 70 kg man squeezing 45 kg scores 0.64.

6. Test protocol

Seated, elbow bent (British and most international data)^{1, 2}

- Seated, elbow bent, usually to 90 degrees.
- Adjust the handle to the hand before starting.
- Squeeze as hard as possible for a few seconds.
- Three trials each hand, alternating hands.
- Record the maximum of the six in kg, and which hand.

Standing, elbow straight (Thai Department of Physical Education)⁴

- Stand upright, arm straight beside the body, palm down.
- Set the sliding grip so the second finger joint sits on the handle.
- Hold the arm about 15 degrees out from the body.
- One maximum squeeze, dominant hand, rest 20 to 30 seconds, second squeeze.
- Best of two in kg, divided by body weight in kg.

Splitting the British data by dynamometer type, or by seated versus standing, moved the centiles by less than 10 percent in most cases.¹ For repeat testing of one person use the same dynamometer, position, handle setting and time of day.

References

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Full article with a rating calculator: isaansport.com/grip-strength-norms-chart.php